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October 5, 2016

BY ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Application of AST Telecom, LLC d/b/a Bluesky and Club 42 CM Limited Partnership for Consent to Assign Licenses, WT Docket No. 16-264

Dear Ms. Dortch:

AST Telecom, LLC d/b/a Bluesky ("Bluesky") submits a redacted version of its response to the general information request issued to Bluesky on September 21, 2016 in connection with the above-referenced proceeding. All redacted information has been designated as highly confidential in accordance with the Protective Order adopted in this proceeding and with written approval from Commission staff.¹

Please contact me with any questions or requests for additional information. I can be reached by telephone at (202) 730-1304 and by e-mail at sgoel@hwglaw.com.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "V. Shiva Goel", is placed above the printed name and title.

V. Shiva Goel
Counsel for AST Telecom, LLC d/b/a Bluesky

cc: Kathy Harris (kathy.harris@fcc.gov)
Betsy McIntyre (elizabeth.mcintyre@fcc.gov)
Jim Bird (TransactionTeam@fcc.gov)

Enc.

¹ See *Application of AST Telecom, LLC d/b/a Bluesky and Club 42 CM Limited Partnership for Consent to Assign Licenses*, WT Docket No. 16-264, Protective Order, DA 16-1067 ¶ 3 (WTB Sept. 21, 2016).

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of

Application of AST Telecom, LLC d/b/a
Bluesky, and Club 42 CM Limited
Partnership for Consent To Assign
Licenses

WT Docket No. 16-264

**RESPONSE OF AST TELECOM, LLC TO GENERAL INFORMATION REQUEST
DATED SEPTEMBER 21, 2016**

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5 October 2016

AST Telecom, LLC d/b/a Bluesky (“Bluesky”) responds to the September 21, 2016 letter of Jon Wilkins, Chief of the Wireless Telecommunications Bureau, requesting additional information to assist the Commission in its review of the application in the above-captioned proceeding.

Request 1(a) – *A detailed discussion of the Company’s plans to provide high-quality, high-speed wireless broadband services prior to the Proposed Transaction, including a detailed description of the Company’s current and planned deployment of HSPA+ and LTE, which identifies the spectrum bands and the total amount of spectrum used for HSPA+ and LTE deployment.*

Response:

As a result of recent network upgrades beginning in 2011, Bluesky currently operates an HSPA+ network running on 2x carrier aggregation. Specifically, Bluesky [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL]. As a result, as of April 2016, Bluesky no longer operates a GSM network but a dual-carrier HSPA+ network. The reason behind Bluesky’s investment in these improvements was growing consumer demand for data, which required a higher throughput air interface.

Bluesky plans to improve further the experience of wireless consumers on American Samoa by operating a dual radio access network (“RAN”) system over HSPA+ and LTE. For LTE deployment, Bluesky plans to use [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [REDACTED] [END HIGHLY CONFIDENTIAL] in the 700 MHz band to support [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [END HIGHLY CONFIDENTIAL]. In addition, Bluesky plans to [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [REDACTED] [END HIGHLY CONFIDENTIAL].

[REDACTED] [END HIGHLY CONFIDENTIAL]. Specifically, by using

Figure 1: Current and Proposed Use of Spectrum for HSPA+/LTE Operations

[illegible]

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Request 1(b) – *A detailed description of how the Company would use the spectrum that it would acquire under the Proposed Transaction to provide advanced mobile telephony/broadband services to consumers, on a standalone basis and/or in conjunction with any other of the Company's spectrum holdings.*

Response:

As shown in Figure 1 above, Bluesky's current holdings include 6 MHz of paired Lower 700 MHz A Block spectrum (call sign WQJQ800) and PCS spectrum in the 1900 MHz band. As part of the Proposed Transaction, Bluesky would acquire an additional 6 MHz of paired spectrum in the Lower 700 MHz B Block (call sign WQOU674), as well as 6 MHz of unpaired spectrum in the Lower 700 MHz E Block (call sign WQOU675).

To support delivery of 700 MHz LTE services [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [END HIGHLY CONFIDENTIAL], Bluesky needs additional spectrum beyond the 6 MHz it holds today. Accordingly, Bluesky plans to use the B Block spectrum that it would acquire as part of the Proposed Transaction [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL]. In addition, Bluesky will continue to explore use of the Lower 700 MHz E Block license that it would acquire as part of the Proposed Transaction [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [REDACTED] [END HIGHLY CONFIDENTIAL].

The Lower 700 MHz spectrum that Bluesky would acquire as part of the Proposed Transaction will also help Bluesky [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL].

Request 1(c) – *A detailed explanation of why the Company needs more than one-third of the suitable and available spectrum below 1 GHz for the provision of mobile wireless services.*

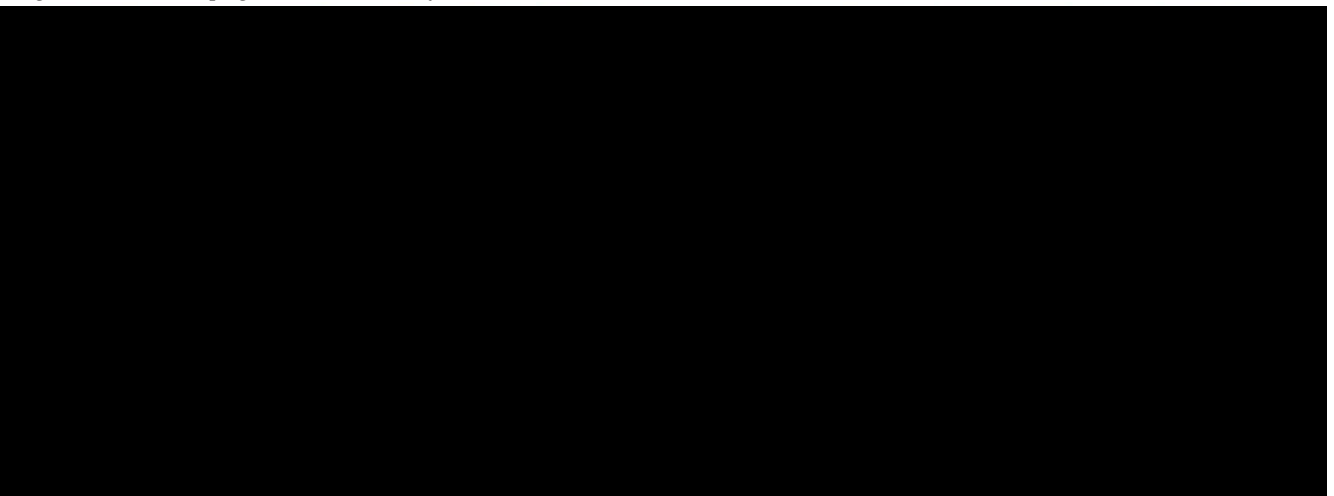
Response:

Bluesky needs more than one-third of suitable and available low-band spectrum for coverage, capacity, and device interoperability reasons.

Coverage. The geographic landscape of American Samoa strongly favors networks that operate on frequencies below 1 GHz due to the superior propagation attributes of low-band spectrum. In addition to helping wireless carriers serve rural areas, low-band spectrum also facilitates service delivery along coastal and sea areas, where much of American Samoa’s economic activity takes place. As a result, Bluesky must continue to use 850 MHz spectrum in order to deliver HSPA+ services with the coverage required in American Samoa. Moreover, with respect to LTE, the 700 MHz band is ideally suited for service delivery on the islands. As shown in Figure 2 below, and confirmed in the shapefiles attached as Exhibit A, Bluesky’s anticipated LTE footprint will be considerably more expansive as a result of its use of 700 MHz spectrum [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL].

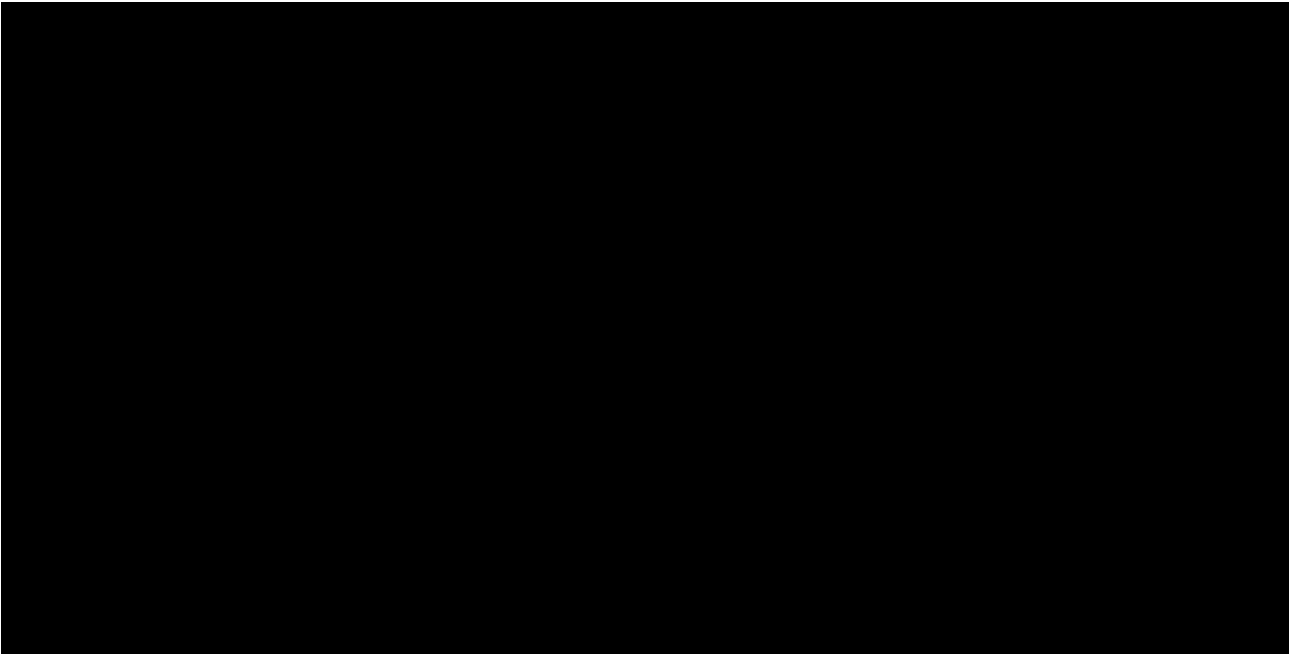
Figure 2: LTE Propagation Prediction for a Cell-Site [BEGIN HIGHLY CONFIDENTIAL]



[END HIGHLY CONFIDENTIAL]

Speeds and Capacity. Demand for data in American Samoa has increased dramatically since Bluesky's introduction of HSPA+ services at the end of 2011. Indeed, as shown in Figure 3 below, data consumption has grown [BEGIN HIGHLY CONFIDENTIAL] [REDACTED] [REDACTED] [END HIGHLY CONFIDENTIAL].

Figure 3: Historic and Projected Data Usage (MBs) [BEGIN HIGHLY CONFIDENTIAL]



[END HIGHLY CONFIDENTIAL]

Given this trend, consumer demand is projected to [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL] To meet this demand, and to deliver a user experience similar to that offered to wireless subscribers on the mainland United States, Bluesky plans to proactively commence deploying LTE as soon as possible.

In addition, Bluesky anticipates that users will consume even more data as [BEGIN
HIGHLY CONFIDENTIAL] [REDACTED]

[illegible]

[REDACTED] [END HIGHLY CONFIDENTIAL] This is fully aligned with what the major operators are adopting or have adopted in mainland United States.

Finally, as explained above, Bluesky wishes to deliver LTE [BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL] in order to meet the aspirations of American Samoan consumers. Bluesky's existing 700 MHz spectrum will support [BEGIN HIGHLY CONFIDENTIAL] [END HIGHLY CONFIDENTIAL].

Accordingly, Bluesky seeks to acquire adjacent B Block spectrum as part of the Proposed

Transaction so that it can deliver [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]
[REDACTED] [END HIGHLY CONFIDENTIAL] in line with the capabilities of major U.S.
operators.

Device and Equipment Availability and Roaming. Device and equipment availability and affordability are essential components of Bluesky's efforts to address the digital divide in an economy such as American Samoa's. Bluesky currently holds Lower 700 MHz A Block spectrum. The A Block was added to LTE Band 12 only very recently; as a result, fewer devices are compatible with LTE Band 12 service delivered using the A Block. As part of the Proposed Transaction, however, Bluesky would acquire Lower 700 MHz B Block spectrum, which will facilitate sourcing of competitively priced devices compatible with Bluesky's LTE Band 12 services. In addition to increasing handset availability for Bluesky's subscribers, this development would ease port service to facilitate roaming on Bluesky's network by subscribers of major carriers operating in the mainland United States. Thus, use of acquired spectrum will help Bluesky align itself with operators on the mainland United States, and create synergies for terminal availability and roaming that serve to create a more functionally homogenous network across the United States and its territories.

Request 1(d) – The Company's timeline for deploying the spectrum that it would acquire in the Proposed Transaction.

Response:

Bluesky plans to begin LTE deployment quickly, beginning [BEGIN HIGHLY
CONFIDENTIAL] [REDACTED]
[REDACTED] [END HIGHLY CONFIDENTIAL]. In preparation for
a recent board presentation on the LTE project, Bluesky developed targets for LTE deployment
shown in the timeline in Figure 4 below.

Figure 4: Timeline for LTE Deployment [BEGIN HIGHLY CONFIDENTIAL]



[END HIGHLY CONFIDENTIAL]

Bluesky's ability to meet these targets depends on the availability of the acquired spectrum for operations. As a result, [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL].

Request 2 – For the Relevant Area, provide a detailed discussion of how the Proposed Transaction promotes and preserves meaningful competition, would still allow rival service providers and potential new entrants to provide an effective competitive constraint, and how it would allow the Company to become a more effective competitor. Provide all documents relied on in preparing the response.

Response:

The Proposed Transaction will promote and preserve meaningful competition by allowing Bluesky to meet demand for wireless broadband services without restricting the ability of others to compete in the marketplace. As discussed above, as a result of the Proposed Transaction, Bluesky will be able to deliver wireless services in areas not currently served by any network, including locations in rural and coastal areas. Furthermore, the transaction will allow Bluesky to meet marketplace demands for greater speeds and bandwidths. The Proposed Transaction will also promote competition by facilitating LTE roaming for inbound travelers from the mainland United States. As a result, the grant of the application will allow Bluesky to be a more effective competitor, and allow Bluesky to elevate the wireless market in American Samoa to the standard set by wireless carriers operating on the mainland United States.

In addition, by facilitating Bluesky’s deployment of fixed broadband services, the Proposed Transaction will allow Bluesky to compete more effectively with its sole facilities-based competitor, the American Samoa Telecommunications Authority (“ASTCA”). ASTCA was recently awarded a Federal grant to build a fiber-to-the-home network, which is still in the process of being deployed. By providing [BEGIN HIGHLY CONFIDENTIAL] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [END HIGHLY CONFIDENTIAL].

Critically, the Proposed Transaction will not undermine the ability of other providers to serve as an effective competitive constraint on Bluesky. As an initial matter, the Proposed Transaction involves the sale of spectrum held by an entity which does not provide facilities-based service in American Samoa. As a result, the Proposed Transaction will allow Bluesky to put unused spectrum to work for American Samoans without weakening an existing competitor. Moreover, ASTCA holds considerable Cellular, 700 MHz, PCS, and AWS spectrum, including a total of 37 MHz of spectrum below 1 GHz in the Western District and Eastern District, which together account for the vast majority (96%) of the islands’ overall population.¹ This spectrum is more than sufficient for ASTCA to deploy LTE service on the islands.

¹ See Census Bureau: Am. Samoa Populations (the Western District and Eastern District account for more than 96% of the population of American Samoa).

Request 3 – *Provide polygons in an ESRI shapefile format representing geographic coverage for Bluesky, including each mobile broadband network technology (e.g., GSM, EDGE, UMTS, HSPA, HSPA+, LTE) deployed in each frequency band (e.g., Lower 700 MHz, Cellular, AWS-1, PCS). Provide all assumptions, methodology (e.g., propagation, projection, field measurements), calculations (including link budgets), tools (e.g., predictive and field measurements) and data (e.g., terrain, morphology, buildings) used in the production of the polygons, and identify the propagation tool used, the propagation model used within that tool, including but not limited to, the coefficients used in the model and any additions, corrections or modifications made to the model.*

Response:

ESRI shapefiles are included as Exhibit A. To develop the shapefiles, Bluesky used an open source web-based radio wave propagation tool called Radio Mobile. Radio Mobile “uses digital terrain information and a mathematical model to simulate radio transmissions between . . . a fixed site and a mobile (Radio coverage).”² The model, which is based on electromagnetic theory and on statistical analyses of both terrain features and radio measurements, predicts the median attenuation of a radio signal as a function of distance and the variability of the signal in time and in space. The digital terrain information comprises three databases – ground elevation, land cover, and population density – each of which is hosted on Radio Mobile’s server, thereby foreclosing the need to load such information on each client computer.

The mathematical model predicts radio transmission performance based on the following entries:

- Transmitter power
- Transmitter line loss
- Transmitter antenna gain
- Transmitter antenna type (for coverage only)

² See Radio Mobile Online – Online RF Propagation Simulation Software, <http://radiomobileonline.pe1mew.nl/> (last accessed Oct. 5, 2016).

- Transmitter antenna azimuth (for coverage only)
- Transmitter antenna tilt (for coverage only)
- Transmitter antenna height
- Transmitter latitude
- Transmitter longitude
- Transmitter ground elevation
- Elevation data records between the transmitter and the receiver sites (up to 2000 records)
- Land cover data records between the transmitter and the receiver sites (up to 2000 records)
- Receiver latitude (for link only)
- Receiver longitude (for link only)
- Receiver ground elevation (for link only)
- Receiver antenna gain
- Receiver antenna height
- Receiver line loss
- Receiver sensitivity (corresponds to the receiver threshold)
- Required reliability (The percentage of time where the signal must be above the threshold to consider a link to be liable).
- Color for a successful reception (for coverage only)
- Strong signal margin (for coverage only)
- Color for a successful reception with a strong signal (for coverage only)
- Transparency of the ground overlay (for coverage only)

The propagation model used by Radio Mobile employs elements of the Irregular Terrain Model (ITM) method and a 2-rays method as appropriate. Both of these methods were used in the computation of the propagation results, as actual testing closely resembles the projections developed by the propagation model. The Radio Mobile propagation model also considers land cover path loss estimations. The frequencies allowed in the software are limited and thus the closest band was used in performing the analysis.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'K. Bressie', is centered below the text 'Respectfully submitted,'.

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Counsel for AST Telecom, LLC d/b/a Bluesky

5 October 2016

EXHIBIT A

ESRI Shapefiles

(Provided electronically on CD-ROM – Highly Confidential)